

4WD-RPB

SUBJ: Region 4 Management of Contaminated Media

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On December 8, 1992 Region 4 issued Guidance Number TSC-92-02 regarding Management of Contaminated Media. Since then, several Rules and Interpretations that influence this guidance have been developed. The Workgroup has developed the attached document to update and supercede the existing 1992 guidance. The 1992 guidance was used as a starting basis for the "new" Management of Contaminated Media Guidance. Then, it was modified and amended to incorporate all changes necessary for consistency and compliance with the recently promulgated Rules and other interpretations.

All States in the region were provided with draft copies of this document while it was being developed, and were offered the opportunity to comment. All comments received from the States and from EPA staff were incorporated as appropriate.

The procedures and management practices set forth in this guidance should be followed by EPA Region 4 and all others who actively manage contaminated media at sites within the region, regardless of whether such management activities are voluntary or carried out in response to EPA or State regulations or directives. This guidance will be made available to the public on the Region 4's Internet web page. Questions regarding the Guidance may be directed to the workgroup members listed above.

Please note that this Guidance is not binding on authorized state hazardous waste programs. Authorized states may have more stringent management standards for contaminated media. Authorized state hazardous waste programs must be consulted for additional information

[Attachment](#)

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Management of Contaminated Media

EPA, Region 4

September 7, 1999

I. What is the Purpose of This Guidance Document?¹

The Purpose of this document is to provide guidance that combines into one document the requirements of RCRA Subtitle C and all rules and guidance issued by EPA relevant to managing contaminated media. It is Region 4's intention to provide an easy-to-follow guidance that promotes timely corrective action and closure activities while staying in full compliance with all applicable and relevant rules and guidance. This document explains how to manage environmental media (i.e., groundwater, surface water, soils, sediments) contaminated with hazardous waste once those media are removed or displaced from their original location by human activity. Guidance in this document is not meant to be used to develop cleanup criteria. Another objective of this document is to facilitate consistency throughout the region in managing media contaminated with hazardous waste. This is particularly important when media or waste is transferred across state lines.

On December 8, 1992 EPA, Region 4 issued a guidance memorandum entitled Management of Contaminated Media (1992 Guidance). Since then, several rules and regulatory interpretations affecting the management of contaminated media have been proposed and finalized. The most recent and important of these documents include the Phase IV Land Disposal Restrictions Rule (LDR)(63 FR 28556-28753, May 26, 1998); Memorandum on Management of Remediation Waste Under RCRA, dated October 14, 1998 (EPA530-F-98-026), and the Hazardous Waste Identification Rule addressing Contaminated Media (HWIR-Media) (63 FR 65873-65947, November 30, 1998). This document replaces and supercedes the 1992 Guidance and incorporates additional requirements and clarifications to ensure compliance and consistency with the new rules and interpretations.

It is important to emphasize that this guidance is only intended to be an interpretation

¹ The policies and procedures established in this document are intended solely for the guidance of employees of the U.S. Environmental Protection Agency. They are not intended and can not be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States. EPA reserves the right to act at variance with these policies and procedures and to change them at any time without public notice.

of RCRA regulations. Nothing in this guidance is intended to change or supercede actual RCRA regulatory requirements.

II. What is Contaminated Media?

The term “environmental media” or “media” in this document refers to soils, sediments, groundwater, and surface water. The definition does NOT include any process wastes or sludges.

EPA Region 4 has established that the criteria used to determine if a medium requires management is based upon human health and environmental risk. By definition, a medium is "contaminated" if one or more hazardous constituent(s), as identified in 40 CFR Part 261 Appendix VIII, are present above concentrations that present an unacceptable risk level to human health or environment, above a promulgated standard when available, and above naturally occurring (background) levels [this is specifically for areas where there are naturally occurring high levels of Appendix VIII constituents].

Risk-based levels for hazardous constituents should be developed in a manner consistent with EPA guidelines for assessing human health and environmental risks from hazardous constituents, with the aid of a toxicologist (and an ecologist, where appropriate). The RCRA RFI Guidance and the CERCLA Risk Assessment Guidance (RAG) should be consulted for further explanation on risk evaluations.

Additionally, EPA has issued a document “EPA’s Contaminated Sediment Management Strategy” (EPA-823-F-98-004, April 1998). The Strategy has the following goals: 1) prevent the volume of contaminated sediments from increasing; 2) reduce the volume of existing contaminated sediment; 3) ensure that sediment dredging and dredged material disposal are managed in an environmentally sound manner; and 4) develop scientifically sound sediment management tools for use in pollution prevention, source control, remediation and dredge material management. Management of contaminated sediments pursuant to this guidance will help address the third goal of the Contaminated Sediment Management Strategy.

Generator knowledge may be used in determining if a medium is expected to be contaminated with hazardous waste. If contamination with hazardous waste is expected, then sampling and analysis must be conducted to determine the appropriate management method of the medium.

III. When Does This Guidance Apply?

This guidance applies to contaminated media generated during the following activities:

- RCRA corrective actions;
- site investigations;
- clean up of spills of listed or characteristic hazardous waste or products, regardless of the regulatory vehicle under which the cleanup is conducted, and including voluntary cleanup, CERCLA, and state-funded cleanup;
- closure of RCRA treatment, storage, or disposal units.

The procedures and management practices set forth in this guidance should be followed by EPA Region 4 and all others who actively manage contaminated media at sites within the region, regardless of whether such management activities are voluntary or carried out in response to EPA or State regulations or directives.

IV. How Does the HWIR-Media Rule Affect This Guidance?

The HWIR Media Rule includes provisions to facilitate management of remediation waste under a remedial action plan (RAP) without the requirements to have a site wide corrective action. The definition of remediation waste in this rule is broader than the contaminated media definition in this document. Remediation waste in the HWIR-Media Rule includes solid and hazardous waste and contaminated media generated in a cleanup process. A facility that manages remediation waste may manage those wastes under a RAP. Under a RAP, a facility is subject to the applicable provisions of 40 CFR part 264 except subparts B, C and D.

The HWIR-Media rule also includes a provision to use permitted “staging piles” to temporarily store non-flowing hazardous remediation waste under the HSWA corrective action without triggering LDR requirements. This provision is addressed later in this guidance.

One other exemption this rule provides is for dredged sediments. When sediments are dredged and discharged to an aquatic environment they are no longer regulated by RCRA, but they are regulated by the Clean Water Act and the Marine Protection, Research and Sanctuaries Act. This exemption from RCRA regulation, however, does not apply to land disposed sediments.

The HWIR Media provides the regulatory vehicle to manage remediation waste including contaminated media. However, this guidance provides the step by step logic that needs to be followed to determine if contaminated media has to be managed in accordance to the HWIR-Media, other RCRA provisions, or if they can be outside any RCRA provisions.

V. Contaminated Media Management

Management of contaminated media follows one of the following three categories:

1. Media Contaminated with Hazardous Waste That Must be Managed in Accordance with RCRA Subtitle C Requirements:

According to the HWIR-Media Rule these media are subject to all RCRA requirements except subparts B, C, and D. These media include the P- and U-listed hazardous wastes, media contaminated with listed hazardous waste, and media exhibiting a hazardous waste characteristic. These subcategories are outlined further in the following paragraphs:

(a) P- and U- Listed Hazardous Waste:

The P- and U- waste listings represent a special situation whereby contaminated media are listed hazardous wastes. As stated in 40 CFR

§261.33(d), the following materials or items are hazardous wastes if and when they are discarded:

Any residues or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

These contaminated media are P- and U-listed hazardous wastes and are subject to all RCRA requirements. However, if the contaminated media are decontaminated to meet risk based standards or the promulgated standards, when available, then they no longer meet the listing and therefore are not a listed hazardous waste nor do they "contain" a listed hazardous waste.

(b) Media Contaminated with Listed Hazardous Waste:

A medium contaminated by listed hazardous waste clearly falls within the scope of the "contained-in" policy, and must be managed under RCRA subtitle C. However, if the level of contamination is below the risk based levels or promulgated standards, when available, for all hazardous constituents and the medium does not exhibit a hazardous characteristic, the medium may be deemed decontaminated, and it no longer "contains" hazardous waste.

(c) Media Contaminated with a Characteristic Hazardous Waste:

Media contaminated with a characteristic hazardous waste must be tested for the hazardous waste characteristic. A medium exhibiting a hazardous waste characteristic must be managed in accordance with Subtitle C

regulations until it no longer exhibits a hazardous characteristic and concentrations of all underlying hazardous constituents are below risk based levels or promulgated standard, when available.

2. Media Contaminated With Hazardous Constituents but do not Contain Hazardous Waste:

This category includes two subcategories (a) media that contained hazardous waste, and were treated so that they no longer contain hazardous waste or exhibit a hazardous characteristic and (b) media that were not known to contain hazardous waste. These two subcategories are further discussed in the following paragraphs:

(a) Media That Contained Hazardous Waste, And Were Treated so That they no Longer Contain Hazardous Waste or Exhibit a Hazardous Waste Characteristic:

When a medium contaminated with hazardous waste is treated so that hazardous constituents concentrations are below the appropriate health based levels and the medium does not exhibit any of the hazardous waste characteristics, the medium can be determined not to contain hazardous waste. However, such medium is subject to LDR and must meet the LDR requirements as outlined in Section VI of this document, or obtain a treatability variance. When a medium is treated to meet both risk based standards and LDR requirements, then it can be managed in accordance with best management practices. Best management practices must, among other things, ensure that these contaminated media do not contribute to the degradation of uncontaminated media, and that no unacceptable cross media transfer (soil to air, or soil to water, etc.) takes place.

(b) Media That are Not Known to Contain Hazardous Waste:

Although media generated under this category may contain hazardous constituents, they are not regulated under RCRA. However, to ensure that these media are managed in a manner that is protective of the human health and the

environment, best management practices have to be used to manage these media. Best management practices must, among other things, ensure that these contaminated media do not contribute to the degradation of uncontaminated media, and that no unacceptable cross media transfer (soil to air, or soil to water, etc.) takes place. “Best Management Practices” determination may include activities ranging from actively treating media to keeping the media on site with no further action.

3. Media Contaminated with Hazardous Waste but Managed in either an Area of Contamination (AOC), a Corrective Action Management Unit (CAMU), or a Staging Pile:

Media containing hazardous waste would normally fall under category 1 (must be managed as hazardous waste). If those media are to be managed in an AOC, a CAMU, or a staging pile, LDR requirements no longer apply. Using one of these media management units does not constitute “placement,” and therefore, does not trigger LDR and other RCRA requirements.

The AOC policy was articulated in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). See 53 FR 51444, and 55 FR 8758-8760, March 8, 1990. See also EPA guidance, March 13, 1996 EPA memo, “Use of the Area of Contamination Concept During RCRA Cleanup.” This policy covers in-situ waste management techniques carried out within an AOC. Certain discrete areas of generally dispersed contamination (AOCs) can be equated to a RCRA landfill and movement of hazardous waste and or contaminated media within those areas would not be considered land disposal.

The CAMU rule created a new type of RCRA unit specifically intended for treatment, storage, and disposal of hazardous remediation waste. A CAMU must be approved by EPA or an authorized state, and designated in a permit or a corrective action order. The CAMU regulations of 40 CFR 264.552 were promulgated February 16, 1993 (58 FR 8658). Contaminated media in a CAMU are not subject to LDR requirements.

The HWIR-Media Rule provided for staging piles that may be permitted under HSWA. A staging pile is a temporary storage area that may be permitted to store remediation waste, including contaminated media, for a period up to two years. The design and specifications of the staging pile must be approved by the RCRA program director. The program director may also grant a one time extension of 180 days for the staging pile operation. Contaminated media in the staging pile are not subject to LDR requirements.

A medium is exempt from LDR requirements as long as it is managed within an AOC, a CAMU, or a staging pile. A summary of the AOC policy and CAMU regulations is presented in the October 14, 1998, EPA memo, "Management of Remediation Waste Under RCRA".

In cases where treatment is required, the treatment must address all Appendix VIII constituents which are above risk based levels, promulgated standard, when available, or background, not merely the Appendix VIII constituent for which the waste was listed or which caused the medium to exhibit a hazardous characteristic. If treatment is to occur on-site, all RCRA investigation and corrective action plans submitted to EPA Region 4 for review and approval should include a sampling and analysis protocol for verifying that a medium has been decontaminated. Sampling frequency for verifying decontamination will depend on a number of site-specific factors, such as the source of the contaminated medium, nature, extent and degree of contamination, and type of treatment. As an example, for small amounts of contaminated media (soil samples, drill cuttings, well purge water, etc.), testing of each drum or batch might provide adequate verification of decontamination. However, for large scale remediation of groundwater, periodic sampling might be appropriate. Chapter 9 of SW-846 provides more specific information regarding appropriate sampling procedures and frequencies.

VI. How Does the LDR Phase IV Rule Effect This Guidance?

The Phase IV Land Disposal Restrictions Rule was finalized on May 26, 1998. In addition to updating the treatment standards for hazardous waste and the universal treatment standards, the rule includes a section on alternative LDR treatment standards for contaminated soil (40 CFR 268.49) (ASTS). Contaminated soils must meet the standards specified in 40 CFR 268.49 prior to placing them into a land disposal or a land treatment unit. Similarly, contaminated groundwater or surface water must meet the universal treatment standards (UTS) in 40 CFR 268.48 for wastewater prior to land disposal. By meeting the standards specified in 40 CFR 268.49 contaminated soil may be land disposed, however, this does not mean that it does not contain hazardous waste. Soils must still meet the criteria specified in the contained-in policy, as discussed in section V.1 above, before it is determined not to contain hazardous waste. Media within the scope described in Section V as categories 1. (a), (b), (c), and 2.(a) are all subject to LDR requirements, unless a variance is obtained from EPA or an authorized state.

There is no correlation between risk based screening numbers that are normally used in site cleanup, and the UTS and ASTS in the LDR rule. This is because the UTS and ASTS are technology based, whereas the site cleanup numbers are normally risk based. This lack of correlation results in UTSS and/or ASTS being above risk based levels for some constituents and below them for others.

Prior to land disposal or land treatment, hazardous constituent concentration in the contaminated media must be compared to the standards in the LDR rule. If the risk based levels are met, and the LDR standards are not, the facility may apply for an LDR variance in accordance with CFR 268.44.

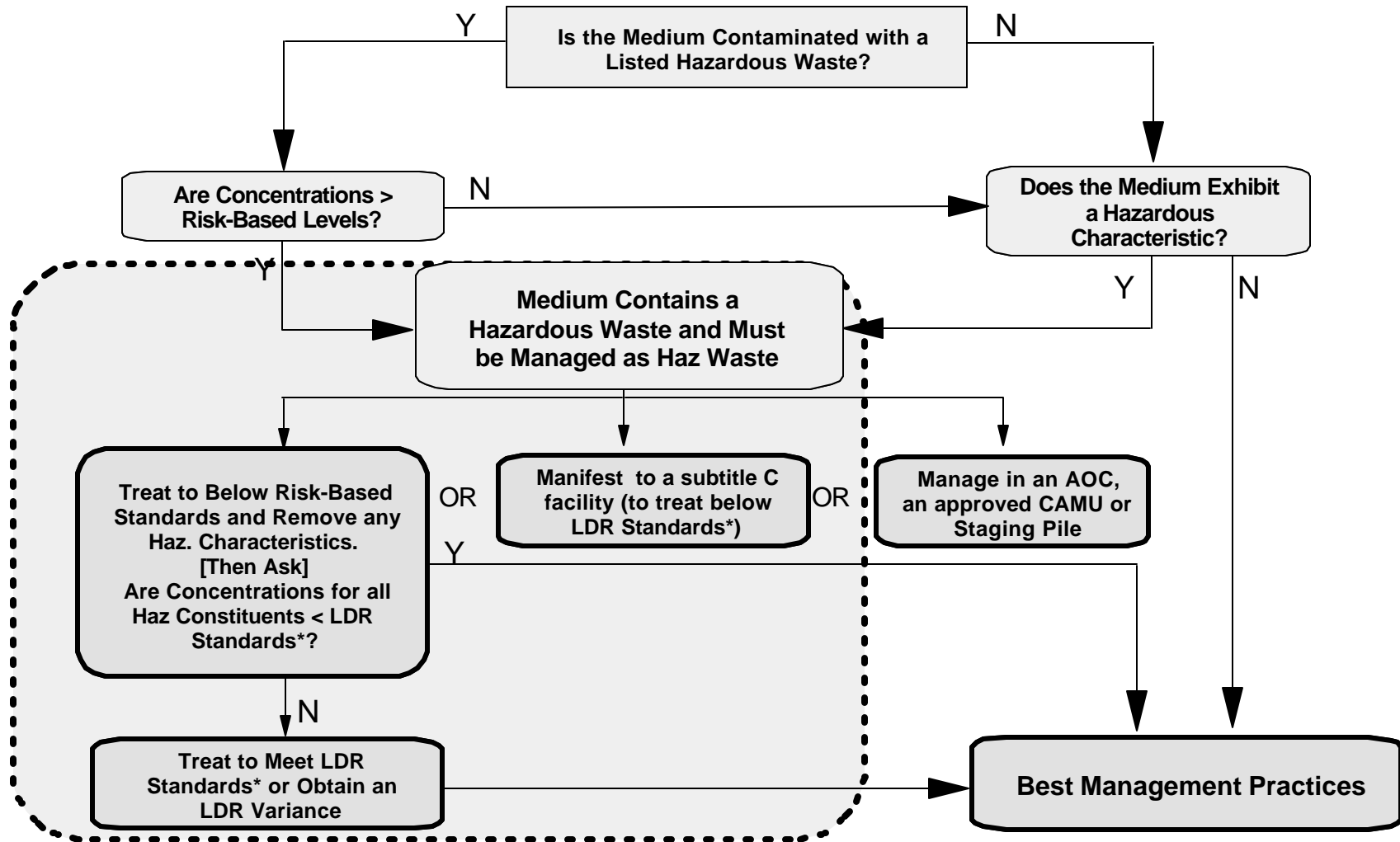
VII. In Summary

Media containing hazardous waste must be managed in accordance with RCRA Subtitle C. If contaminated media are treated so that concentrations of hazardous constituents are below risk based levels or promulgated standards, when available, and the media do not exhibit any of the hazardous waste characteristics, then the media can be managed in accordance with best management practices. If a medium is to be land disposed or land treated, LDR requirements must be met.

The October 14, 1998, EPA memo, "Management of Remediation Waste Under RCRA" summarizes all regulations, policy, and interpretation documents that address management of media contaminated with hazardous waste. The attached flow diagram presents the logical progression to follow in determining the appropriate level of management needed.

Management of Contaminated Media

EPA, Region 4



* LDR Standards may be the Universal Treatment Standards or, when applicable, the Alternate LDR Treatment Standards for Contaminated Soil (40 CFR 268.49)



Area where LDR Applies

DECISION MATRIX FOR MANAGING CONTAMINATED MEDIA

